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ABSTRACT

A study was made to determine the relationship between cardiovascular fitness and self-esteem. Ninth grade boys were divided into four groups: (1) the cardiovascular fitness group; (2) the counseling group; (3) the cardiovascular fitness and counseling group; and (4) the control group. All were administered a pretest and posttest measuring self-esteem and fitness. The group which performed at the highest level on the posttest for physical fitness was that group which participated in the combined program of group counseling and physical education. Both the fitness group and the counseling and fitness group performed at a level greater than the control group. No significant differences in self-esteem were found between the groups. An analysis of these findings is presented in this report and the implications for physical and health educators are discussed. (JD)

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The Effect of Group Counseling and Physical Fitness Programs on Self-Esteem and Cardiovascular Fitness

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Abstract

This study was undertaken to determine the relationship between cardiovascular fitness and self-esteem. Participants in the study were ninth grade boys who were divided into four groups: (1) the cardiovascular fitness group, (2) the counseling group, (3) the cardiovascular fitness and counseling group, (4) the control group. The duration of the study was ten weeks. All students were administered a pretest and a posttest measuring self-esteem and physical fitness. The Coopersmith Self-Esteem Inventory was used to assess self-esteem. The Cooper Twelve Minute Run-Walk Test was used to assess cardiovascular fitness. Analysis of covariance revealed a significant difference in fitness between the fitness group and the control group and between the fitness and counseling group. There were no significant differences in self-esteem.

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The Effect of Group Counseling and Physical Fitness Programs on Self-Esteem and Cardiovascular Fitness

The idea that sports can play a significant role in the development of overall physical and mental health dates back to antiquity. It is only recently that empirical studies have attempted to ascertain the relationship between these variables. Many studies have focused on the relationship between physical fitness, a product of participation in sports, and self-esteem, a factor in the assessment of mental health. The studies to date are contradictory and inconclusive.

Many educators believe that the most important single factor effecting behavior is a person's self-esteem. Stringer (1971) observes that low self-esteem is linked to social and educational failures, mental illness and crime. Layman (1968) argues that there is much evidence to support the hypothesis of a positive relationship between physical fitness and emotional health.

With the heightened consciousness brought about by the humanistic movement in education, many health educators and physical educators are becoming increasingly aware of the role of self-actualization in human development. Organic vigor has given way to self-realization as a major objective of physical education.

This thinking expresses a philosophy that physical activities are to be used as a vehicle for personal development. The belief has been expressed that the development of attitudes toward the self should be among the objectives of physical education (Neale, Sonstroem, and Metz, 1969).

It may be that changes in physical ability self-esteem may lead to changes in other dimensions of self-esteem (Mellison, 1973).

These concepts served as the rationale for this study. The researcher believed that an increase in physical fitness would bring about a concomitant increase in self-esteem through two mechanisms. First, there would be an increase in the ability to do the running and other exercises used to develop cardiovascular fitness. Second, there would be an increase in one's sense of well-being due to increased levels of fitness. Other studies investigating these contentions have been contradictory.

Research has demonstrated that there is a positive relationship between an individual's level of fitness and psychological traits (Balazs, 1975; Harris, 1963; Ismail & Trachtam, 1973; Mayer & Grant, 1972). More specifically a number of studies have demonstrated that participants in a program resulting in improved physical fitness also experienced an increase in self-esteem (Gary & Guthrie, 1972; McGowan, Jarman & Pederson, 1974; Stanford, Hambacher & Fallica, 1974).

Other investigators have concluded that more evidence needs to be generated to support the relationship between physical fitness and personality (Weber, 1954). Neale et al. (1969) investigated the relationship between physical fitness and self-esteem and concluded that self-esteem in adolescent boys is mainly the result of factors other than physical fitness. Tillman (1965) concluded that an increase in cardiovascular fitness does not have a significant effect on personality. The intention of this study was to clarify these contradictory findings.

Procedures

Sixty ninth grade boys were randomly selected to participate in this study. The students were randomly divided into four groups of fifteem. Group 1 participated in a cardiovascular program. Group 2 participated in a group counseling program. Group 3 participated in a program of cardiovascular fitness and group counseling. Group 4 served as the control group and participated in neither of the programs.

The cardiovascular fitness program consisted of a combination of circuit and interval training. Fitness experts have demonstrated that both methods of training are effective in developing cardiovascular fitness (Cureton, 1964; Hockey, 1973).

The group counseling sessions were structured--that is, they had a predetermined content. Each counseling session involved the presentation of a film, filmstrip or story dealing with the elements of self-esteem. This was followed by a discussion of the contents of the presentation.

The study was conducted during a ten week period in the months of September, October and November. All groups met on Tuesdays and Thursdays. The researcher conducted all counseling sessions. Two physical educators carried out the fitness dimension of the study. To neutralize the effects of teacher behavior the physical education teachers switched groups at the midpoint of the study.

Both self-esteem and physical fitness were measured before and after the study. The Coopersmith Self-Esteem Inventory was used to assess self-esteem. The Cooper Twelve Minute Run Walk Test was used to assess cardiovascular fitness.

Results

A study of Table 1 reveals that the cardiovascular fitness group, the counseling group and the control group all experienced a decrease in the level of fitness. The only group to demonstrate an increase in fitness after the experimental period was the group that participated in a combined program of fitness and counseling. Analysis of covariance indicated that these differences were significant at the .01 level.

Insert Table 1 about here

With the exception of the fitness group all experimental groups experienced a slight decrease in self-esteem. Analysis of covariance revealed that these differences in self-esteem scores were not significant (F ratio = 0.7266).

The analysis of covariance for the fitness test scores revealed significant differences between the adjusted means of the fitness scores. A Scheffe Comparison was used to determine where the difference occured.

Insert Table 2 about here

The Scheffe Comparison revealed that there is a significant difference between the cardiovascular fitness group and the control group on the adjustment means for the fitness test (.05 level). There is also a significant difference between the counseling and fitness group and the control group (.01 level).

Discussion of Results

The belief that an integrated program of group counseling and physical education would be beneficial to students was supported by the data of this study. The treatment group which performed at the highest level on the posttest for physical fitness was that group which participated in the combined program of group counseling and physical education. This group obtained the lowest score of all the groups on the pretest measuring cardiovascular fitness.

It may be that the content of the group counseling sessions provided the motivation for greater physical performance both during the experimental period and also on the posttest. Part of the content of the group counseling session dealt with the importance of setting goals and working for their achievement. The stories of great athletes using sports to overcome handicaps and failures were used to illustrate this concept.

The contention that an integrated program of counseling and physical education provided motivation for greater performance on the fitness test tends to be supported also by the score of the group which participated only in the counseling sessions. The counseling group performed at a level very close to that of the fitness group even though the difference between this group and the control group was not statistically significant.

The major finding of this study in the area of fitness is that both the fitness group and the counseling and fitness group performed at a level significantly greater than the control group. These results are consistent with the research of Cooper (1968) which demonstrated that vigorous exercise carried on for the period of more than five minutes

would result in an increase in fitness. Other researchers (Cureton, 1964; Hockey, 1973) found that building overload into a circuit and interval training by increasing amount of work and time resulted in greater levels of fitness.

These findings are also consistent with those of other investigators who have examined the effect of fitness programs on self-esteem. Gary and Guthrie (1972) and Stanford et al. (1974) found that physical exercise programs enhanced cardiovascular fitness and self-esteem in hospitalized alcoholics and institutionalized geriatric mental patients respectively. McGowan et al. (1974) found that a program of competitive endurance training resulted in an increase in cardiovascular endurance in an experimental group.

One of the major purposes in undertaking this study was to investigate the relationship between self-esteem and physical fitness. The notion of the investigator was that an increase in the level of cardiovascular fitness could possibly result in the enhancement of self-esteem. This increase in self-esteem might come about as a result of the feelings of well-being accompanying physical fitness. It may also be psychological in nature and come as a result of working hard towards the attainment of goals. This thinking was not supported by the results of this study. The analysis of covariance revealed that there were no significant differences between the four treatment groups on the adjusted means for self-esteem.

In light of current theory in the area of self-esteem, this is not a surprising finding. Most psychologists agree that a person's conception of himself is formed during the early years of life and that once formed it is difficult to modify. Some personality theorists (Lecky,

1961; Purkey, 1970) believe that self-consistency is a trait of personality and that a concept which is inconsistent with the self is ignored. Other investigators believe that a youngster will seek experiences that are in keeping with his conception of himself and avoid those he believes he can't do (Combs & Snygg, 1959; Jersild, 1957). Because of the nature of self-esteem, it appears to be a stable dimension of personality (Carlson, 1965; Engel, 1957).

This a study of this nature cannot lead one to conclude that there is not a relationship between fitness and self-esteem. It does demonstrate the difficulty of changing feelings and attitudes that have been entrenched over 13 years of experience. It could be that low self-esteem is changed only when chipped away by many positive experiences over a long period of time. Physical educators and health educators cannot underestimate their role in contributing to this process.

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Table 1

Means of Pretest and Posttest Scores

on Physical Fitness and

Self-esteem Tests

Group	Pretest Fitness	Posttest Fitness	Pretest Self-esteem	Posttest Self-esteem
1	1.55 mi.	1.52 mi.	65.1	68.2
2	1.50 mi.	1.46 mi.	72.4	71.7
3	1.47 mi.	1.56 mi.	72.9	72.2
4	1.58 mi.	1.38 mi.	77.2	74.1

Table 2

Results of Scheffe Comparison of the

Adjusted Means on the Physical

Fitness Tests

Group	Fitness	Counseling	Counseling and Fitness	Control
Adjusted Mean	1.50	1.48	1.60	1.34
Scheffe Comparison	0.16*	0.14	0.26**	

*Significant at 0.05

**Significant at 0.01